M E M O R A N D U M

TO: John Mitnik, Bureau Chief, Engineering and Construction

THROUGH: Dean Powell, Bureau Chief, Water Supply

FROM: SFWMD Staff Water Supply Advisory Team

DATE: September 8th, 2015

SUBJECT: Water Supply Report

District-wide Conditions

Groundwater levels showed mixed trends throughout most of the District over the last week. The United States Geological Survey (USGS) real-time wells in the Kissimmee Basin (KB) within the District boundaries were in the median percentile range or higher for this time of year. Three quarters of surface and groundwater stations in the KB recorded increases in water levels during the last seven days. Stages in the Upper East Coast (UEC) canals C-23, C-24, and C-25 were at 21.77, 19.53, and 19.94 feet, respectively, well above the 14 feet NGVD agricultural cutoff level. Approximately one third of the UEC surficial aquifer wells were in the lower 10th to 30th percentile range or lower, with the remainder at median levels or higher for this time of year. Surface and groundwater levels increased in three quarters of the stations in the Biscayne aquifer over the last week. Over half of the USGS Biscayne aquifer monitor wells in Miami-Dade County are in the lower 10th to 30th percentile range or lower for this time of year. Low water levels persist in Everglades National Park (ENP).

In the Lower West Coast (LWC), groundwater levels increased in over half of the monitoring stations over the last seven days. Most of the wells in the Surficial aquifer are at median levels or higher for this time of year. The majority of the wells in the Lower Tamiami aquifer are at median levels. Sixty percent of the Sandstone aquifer wells are at median levels, with the remainder in the lower 10th to 30th percentile range or lower. Over half of the Mid-Hawthorn aquifer wells are in the upper 10th to 30th percentile range or higher. The remainder is mostly in the lowest 10th percentile range for this time of year. **Figure 1** is a USGS map showing conditions on September 7th, 2015, from a 7-day running average of daily recorded water levels compared to the statistical distribution of daily water levels for the period of record for selected sites in southern Florida.

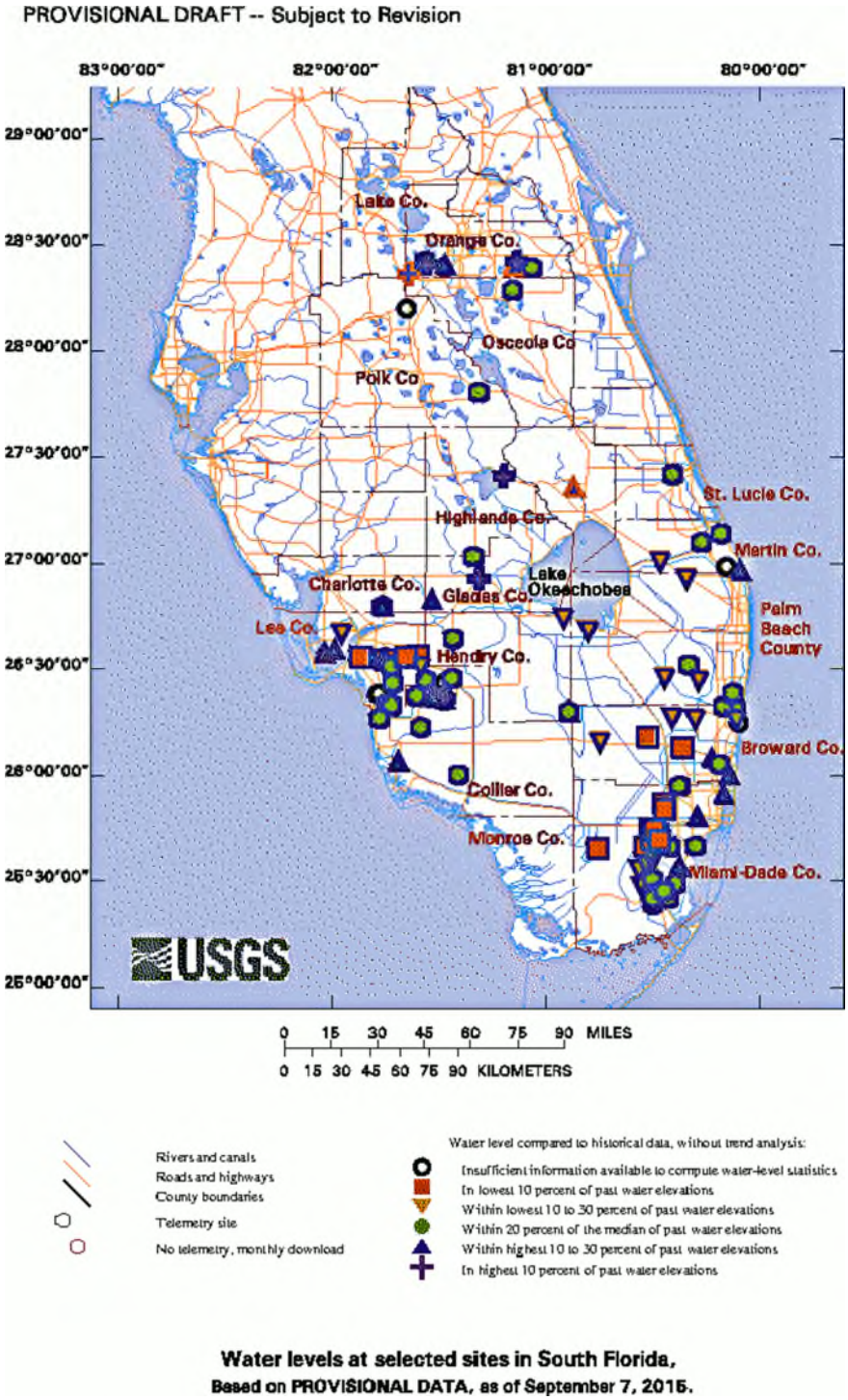

Figure 1. Current Water-level Conditions in South Florida (source: USGS, http://www.sflorida.er.usgs.gov/ddn_data/index_ndt.html)

Water Supply Technical Input to LORS2008

The Palmer Index for Lake Okeechobee (LOK) Tributary Conditions is -0.87, classified as "normal," and is in the "low" risk category. The LOK stage for the next two months is projected to be in the Base Flow Sub-Band, and the risk to water supply is categorized as "moderate." The Climate Prediction Center's (CPC) Precipitation Outlook is projected as "normal" for one month and three months, leaving both the one month outlook and the three month outlook in the "low" risk category. The LOK Seasonal Net Inflow Forecast is in the "normal to extremely wet" range, with "low" risk to water supply. The Multi-Seasonal Net Inflow Forecast is projected as "wet," with "low" risk to water supply. The stages in the Water Conservation Areas are all above line 1 and in the "low" risk category. Groundwater levels in Service Area 1 and 2 are in the "moderate" risk category. Service Areas 3 is in the "high" risk category. The Year-Round Irrigation Rule is in effect for the LEC Service Areas. **Figure 2** summarizes the water supply risk indicators.

LORS2008 Implementation on 9/7/2015 (ENSO Neutral Condition):

Water Supply Department Technical Input

Water Supply Outlook:

District wide, Raindar rainfall 1.66 inches for the week ending 9/8/2015. Lake stage on 9/7/2015 is 13.32 ft, up 0.37 ft from last week.

The updated August 2015 SFWMM Dynamic Position Analysis percentile graph and tracking chart for Lake Okeechobee show that the lake stage is in the Base Flow Operational Sub-Band.

The LORS2008 tributary indices are classified as **Very Wet**. The PDSI indicates normal condition and the LONIN is Very Wet. The classification is based on the wetter of the two.

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Base Flow Sub-Band	M
	Palmer Index for LOK Tributary Conditions	-0.87 (Normal)	L
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Forecast	2.63 ft (Normal to Extremely Wet)	L
	AMO warm/El Nino		
	LOK Multi-Seasonal Net Inflow Forecast	3.23 ft (Wet)	L
	AMO warm/El Nino		
WCAs	WCA 1: Site 1-8C	Above Line 1 (16.25 ft)	L
	WCA 2A: Site 2-17 HW	Above Line 1 (12.52 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (9.23 ft)	L
LEC	Service Area 1	50% or more of USGS wells are within the lowest 10% to 30% of past water elevations and not more than 25% are in the lowest 10% of past water elevations	M
	Service Area 2	50% or more of USGS wells are within the lowest 10% to 30% of past water elevations and not more than 25% are in the lowest 10% of past water elevations	M
	Service Area 3	50% or more of USGS wells are within the lowest 10% to 30% of past water elevations and more than 25% are in the lowest 10% of past water elevations	H

Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow forecasts use slightly different classification intervals than those used by the 2008-LORS for classifying the tributary hydrologic condition (THC).

Figure 2. Water Supply Risk Indicators